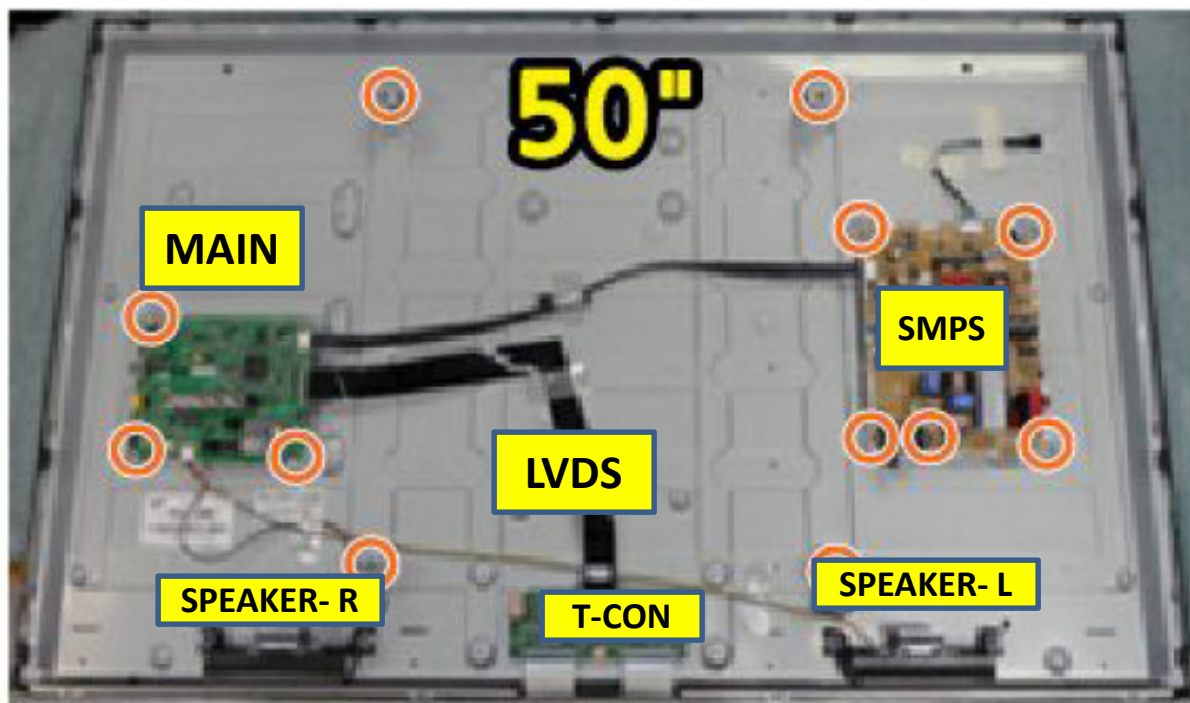




-FIRMWARE: 6/4/2012 Version 1012.3
 -2012 LED TV X9N Full HD Firmware (T-MX9FAUSC_1012.3)
 -“Makes better picture quality and solves sound noise with 'Auto Volume On'.”
 Avail on GSPN or Samsung.Com
Always check for latest updates

Quick Parts List:
- Verify before ordering -

Ver.	Part No.	Description
CH01	BN07-01140A	LCD-Panel
CH01	BN94-05764R	Main Board
CH01	BN44-00499A	SMPS
CH01	BN96-22213A	T-Con
CH01	BN96-22413L	Jog Sw. & IR
CH01	AA59-00600A	Rem. Cont.

HELP : 888-751-4086; 866-894-0637 FE)
 GSPN

<http://gspn3.samsungcsportal.com>

PLUS ONE

<http://my.plus1solutions.net/clientPortals/samsung>

HOT TIPS

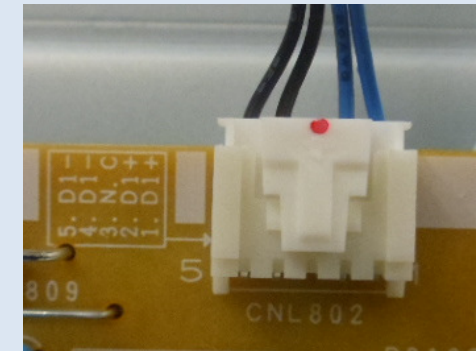
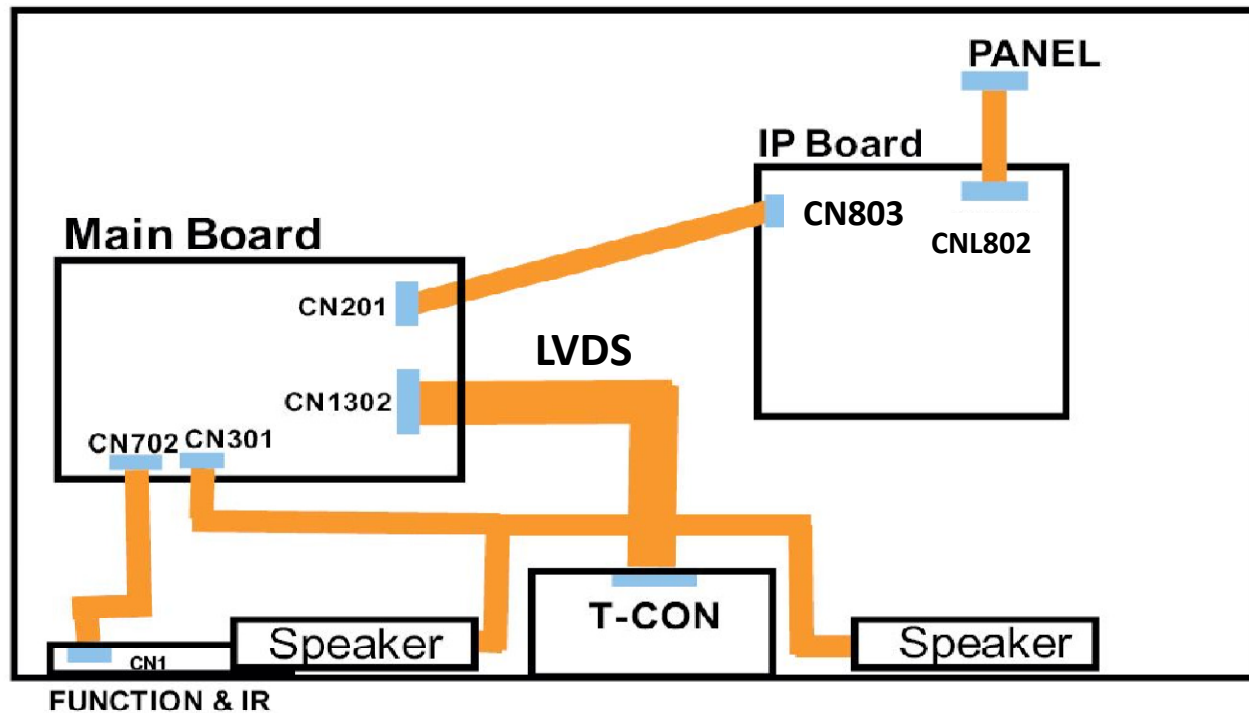
-New 2012 Model... always check for latest bulletins and firmware updates.

- Important Bulletins for rear cover removal and front cover replacement to prevent damage.

SERVICE BULLETINS

No Bulletins listed for this exact model /size as of the date of this revision.

Other smaller sizes for the same model series have important bulletins concerning rear cover removal and front cover replacement procedure to prevent damage.



CNL802 IP SMPS to LEDs

1	D1 -
2	D1 -
3	N/C
4	D1 +
5	D1 +

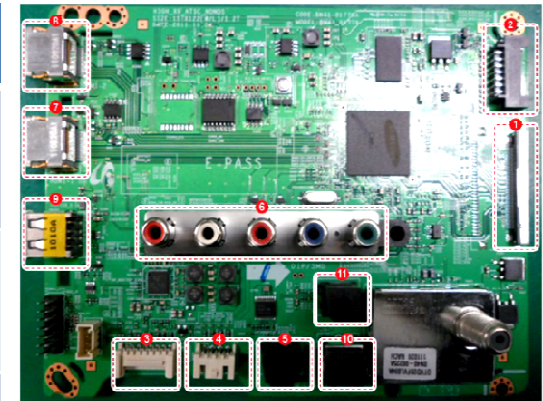
CN803 IP SMPS to /fro MAIN BOARD

1	B13V	8	GND
2	PWM_DIMM	9	GND
3	B13V	10	GND
4	B13V	11	B5V
5	Vamp 13V	12	A5V
6	BLU On/Off	13	B5V
7	Vamp 13V	14	Power On/Off

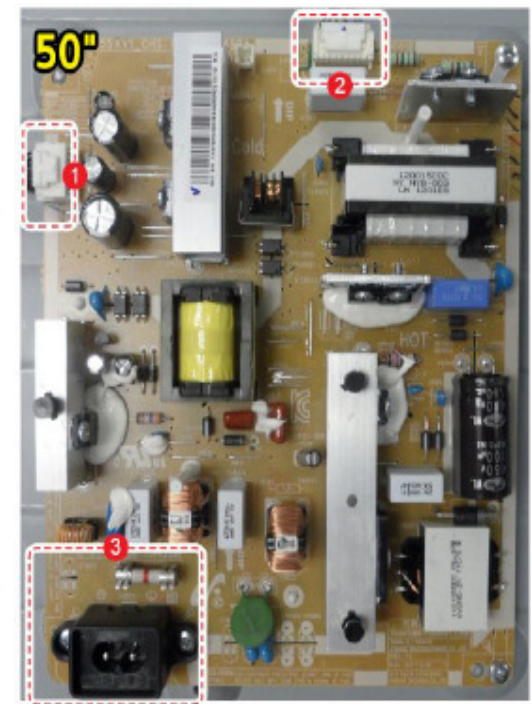
UN**EH TV Start Up Sequence

Sequence	Location	DC Voltage
1. 5V STBY to Main Board	CN803-12 (A5V)	5V
2. Power On/Off From Main Board	CN803-14 (Power On/Off)	0V-3.5V
3. Low Volts On to Main Board with Booting Melody (X9 MStar)	CN803-1,3,5,7 (B13V) CN803- 11,13 (B5)	13V 5V
4. Back Light On/Off From Main Board	CN803-6) BLU On/Off	0V – 4.9V 5 Sec Dly
5. Back Light Dim Control from Main Board “0 to 20” Backlight	CN803 - 2 (PWM_DIMM) effective DC Voltage is max when backlight max	0.5V – 4.0V (effective) Dark to Bright
6. Dim Control Out from IP SMPS to LEDs D1 – is max voltage when backlight is min	CNL802-1 & 2 (D1 -) C NL802-4 & 5 (D1+) D1 + stays constant DC voltage.	1.3V-32.8V 110.8V

MAIN



SMPS



Function Control Troubleshooting

- ✓ Standby **A3.3V** on Function Connector, Pin 3.

- ✓ All Pins should read **3.3V** before commands.

- ✓ **Press**, at Key 1, Pin 6. 3.3V to 0.0V DC

- ✓ **Left, Right, Up, Down** at Key 2, Pin 7. Check **specific voltages** on chart.

5 Directional Function Control

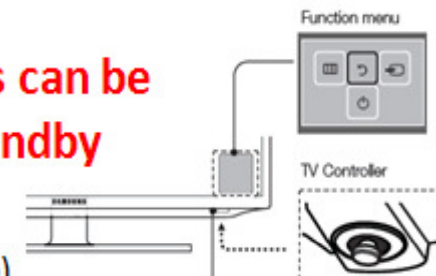
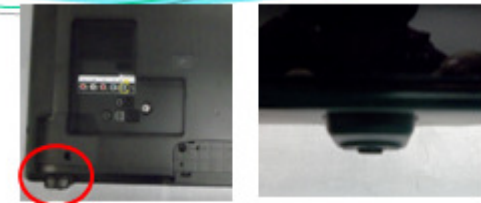
UNEH4000 Sample



CN702 (FUNCTION)			
1	IR	5	MSDA
2	GND	6	KEY1
3	A3.3V	7	KEY2
4	MSCL	8	GND

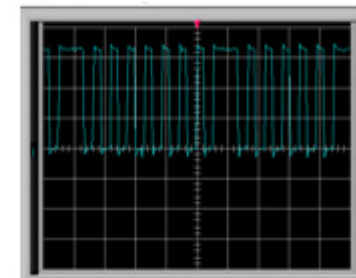
All Functions can be Tested in Standby Mode

(Standby Voltage)



Command	PIN	Signal	DC Voltage/Notes
IR	1	IR	3.3V to 2.5V DC with any Remote Control Commands
Press	6	Key 1	3.3V to 0.0V DC
Left	7	Key 2	3.3V to 1.6V DC
Right	7	Key 2	3.3V to 2.5V DC
Up	7	Key 2	3.3V to 0.0V DC
Down	7	Key 2	3.3V to 0.8V DC

Actual IR Signal



4V P-P Data

Fast Track Troubleshooting Manual



TROUBLESHOOTING VIDEO PROBLEMS

1. Verify Video Operation (2012 Models)

- Boot Logo** models with X10 Micro-Processor & above during power on. Boot Sound only (X9 MPU) during power on.
- Customer Picture Test** in user menu
- "Display"** (If display and Boot Logo & Customer Picture Test are OK the source or cables are first suspected. Then check for a defective input on the Main Board.)
- Substitute with known good Source (external DVD or Signal Generator to check inputs on Main Board)

2. Using Test Patterns in Factory Mode

- ENTER FACTORY MODE -

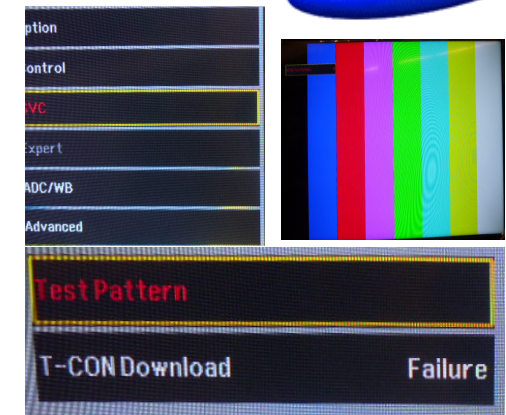
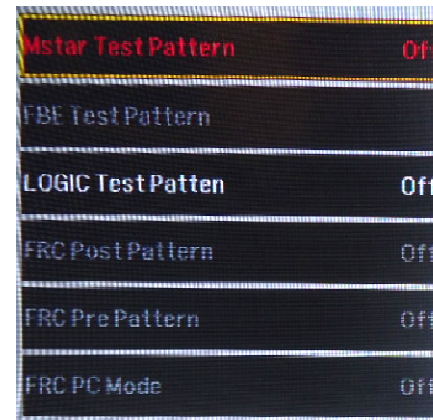
- Select an active source signal since Test Pattern may rely on signal source to appear or select TV Source mode.

Customer Remote

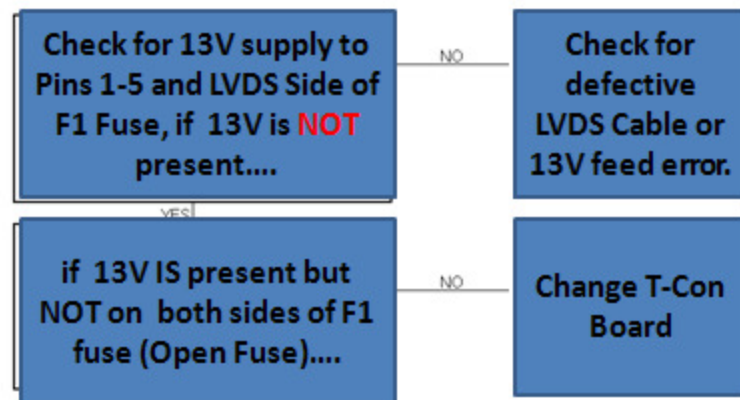
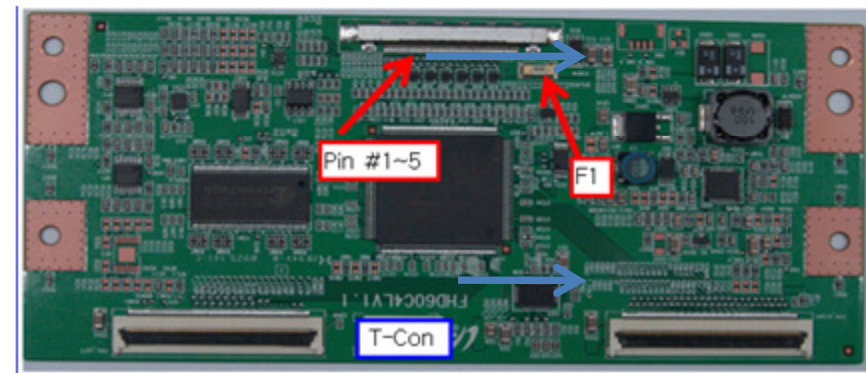
- Power Standby
- Mute, 182, Power On
- Select SVC
- Select Test Patterns

Service Remote

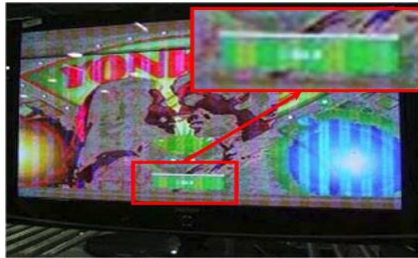
- Power On
- Info, Test



T-Con Troubleshooting



ON SCREEN FAILURE EXAMPLES:



If Picture & Display errors
Defective Main Board, LVDS,
or T-CON



Green lines or a green screen
defective main board , LVDS , or
T-CON.

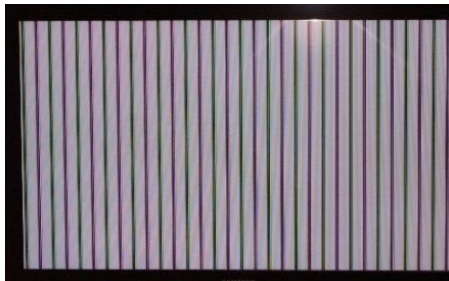


Original Image



Image on Screen

Pixelization can be caused by the main board
but is more commonly a source error



Vertical or Horizontal Lines :Defective
Panel likely but also T-CON, LVDS, or Main
Board. Use Test Patterns in Factory Service
Mode to determine error)

ALIGNMENTS:



1. Check/Set **Option Bytes**: in Factory Mode
(Must be performed after replacing **Main Board.**)

Standard Remote

1. Power OFF the TV
2. Press MUTE, 1 8 2, then POWER

Factory remote

1. Power the TV ON
2. Press INFO then FACTORY

Option	T-MX9HAUSC-1006.0 DTP-LP3-0061-11 DTP-LP3-App-0061-10 OPTION:32P6AF0D,US,4000,NONE
Control	FactoryCS:011120080
SVC	ADC:HDMI/COMP/PC/AV/ EDID:SUCCESS HDCP:SUCCESS
Expert	Build Date:1-30-2012 Date Of Purchase:00/00/00
ADC/WB	
Advanced	

Factory Reset	
Type	32P6AF0D
Model	UE4000
SVC Model	4000
Local Set	US
Tuner	SLATC2
Ch Table	NONE
Front Color	NONE

2. Check/Perform latest **Firmware**
Upgrade for **all** repairs.
3. Perform reset in Service Mode
if Main board is replaced.

SPECIAL NOTES:

Inform customer of reset of all
Settings if Main Board is replaced.

Option Bytes settings for UN50EH5000

Model Code	Side Label	Option							
		Type	Basic Model	SVC Model	Tuner	Region	Ch Table	Front Color	Local Set
UN50EH5000FXZA	CH01	50P6AF0D	UEH5000	UEH5000	-	-	SAMEX	U-S-C-5K	US

'2012 LED Hybrid Disassembly **cautions** for Front Cover

To prevent the removal process from damaging the connections on the sides of the panel.

(New panels come with the Front Cover)

1. Place TV face up on cushioned table.



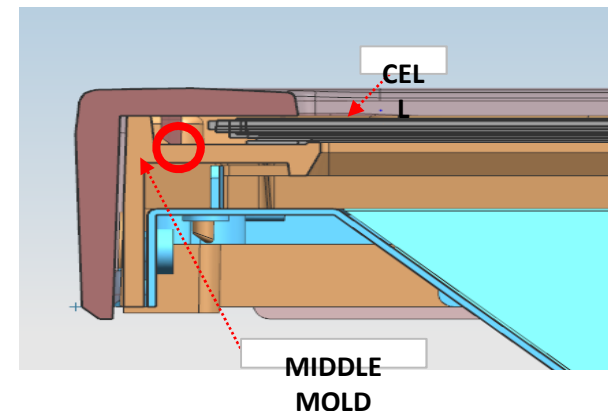
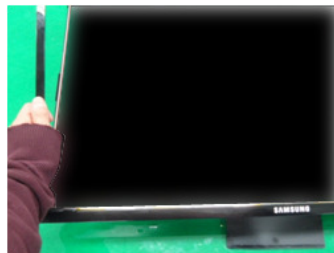
2. **Cut and split** the cover off at the top



3. Carefully remove the Front Cover and insulated paper in Front of T-Con area.



4. Attach the Front Cover bottom first to the panel



5. Secure the plastic latch on the left and right side of the Front Cover as shown

6. Visually inspect the spacing between the Cover and the panel for equal clearance

7. Combine to stick the Front Cover Rib into the middle mold.